

REMARKS

Claims 1-13 are pending in the application.

Claims 1-13 were rejected.

Claims 1-9, 11 and 13 are amended herein.

I. 35 U.S.C. §102 Claim Rejections

In the Office Action, claims 1-13 were rejected under 35 U.S.C. §102 as being anticipated by Fong *et al.*, (US. Patent No. 6,493,328). Applicants respectfully traverse this rejection and request reconsideration by the Examiner.

The invention is directed to a method for maintaining a connection between a mobile unit in a wireless communication system among multiple service areas of the wireless system. With the method of the invention, a substantially continuous connection is maintained between the mobile unit and data network interfaces associated with each of the multiple service areas, as the mobile unit moves between a primary coverage area of a first service area and a primary coverage area of a second service area.

A key element of the invention is a novel network interface that operates to provide connectivity for a given Mobile Node (MN) with network controlling elements in two or more service areas of the wireless system.

As taught by the Applicants, in wireless systems of the art, an interface may be provided between service areas of the wireless system and a data network, that interface usually being implemented in a Packet Data Serving Node (PDSN). It is a characteristic of such data interface arrangements that the network controlling element (*e.g.*, a BSC) for each service area is interfaced to a separate PDSN. Applicants further pointed out that a limitation of the current art is that, for a given MN, only one access connection (*i.e.* one PDSN connection) to a data network

is permitted at a time. Thus, as an MN using a data connection moves from one service area to another, a hard handoff is required from an initial service area network controlling element to a network controlling element in the second service area.

The invention provides a solution to that data loss problem using the existing MN architecture and consistent with current standards. In particular, the Applicants recognized that an MN can maintain plural communication paths using the Radio Link Protocol (RLP), and that this capability can be advantageously applied to provide data connectivity from an MN to multiple service areas. Using that RLP capability, the Applicants devised a new network interface that can be implemented at a service-area network controlling element to permit the MN to maintain separate RLP instances (channels) with the service-area network controlling element and with another network controlling element in a separate service area (which is interfaced to a separate PDSN than the PDSN interfaced to the initial network controlling element). With the network interface of the invention, the MN is thereby able to maintain simultaneous connections with multiple PDSNs.

Specifically, as an MN moves to a new service area, it establishes plural communications channels with a network attachment point (*e.g.*, a base transceiver station) in the new service area, and ultimately with a network controlling element of the new service area. At least one channel is established, via the new network controlling element, with the new PDSN for registration with that PDSN, and ultimately for data transmission via that PDSN. At the same time, at least one other channel is established with the new network controlling element which is connected, via an inter-service-area communications channel, with the network controlling element of the initial service area, and ultimately with the PDSN associated with that initial network controlling element.

Thus, while the MN negotiates registration and initialization procedures with the PDSN of the new service area (via the channel established with the new PDSN), its data communications stream is maintained with the original PDSN via the separate communications channel established back to the initial network controlling element and associated PDSN. Once the registration and initialization procedures have been completed with the new PDSN, and a data communication channel established from the MN to the new PDSN (via the network controlling element of the new service area), the data communications channel established via the new network controlling element back to the original network controlling element is terminated.

It can thus be seen that the invention provides simultaneous connectivity for an MN to multiple network controlling elements and permits the MN to maintain a temporary continuing data communications path with an original PDSN after having moved into a new service area associated with another PDSN. Accordingly, the invention eliminates the data loss of the prior art during the time required for registration with the PDSN associated with a new service area.

Applicants acknowledge that the Fong reference is generally concerned with the provision of a data connection between a mobile node in a wireless system and a server in a data network, such as the Internet. However, Applicants further respectfully suggest that this is the only real similarity between the teaching of Fong and their invention.

While Fong discloses an interface between a base station controller of a service area and a PDSN, as associated with an implementation of a wireless data channel, and, as well, includes a general discussion of the Radio Link Protocol (RLP), nothing in that disclosure could reasonably be construed to show or suggest the methodology of the invention here. None of the RLP discussion in Fong is related to the idea of the invention for using RLP to establish plural communications channels between a mobile node and a serving BSC. Nor, is there any

suggestion in Fong for the establishment of concurrent communications paths from a mobile node to multiple PDSNs. Indeed, the entire discussion of Fong is concerned solely with the movement of a mobile node within a single wireless service area – and access to the single PDSN associated with that single service area, along with the interface of the mobile node with various base stations operating under the control of the BSC for that single service area. Nothing in Fong can be read to suggest any concern with the movement of a mobile node from a first service area to a second service area, much less with the problem of overcoming the hard break in a data communications channel resulting from such movement.

In sum, nothing in the teaching of Fong could reasonably be construed to show or suggest the idea of plural communication channels between a mobile node and a network controlling element of the service area with which it is in communication, and certainly not the use of one of those communication channels to effect a continuing link with a prior network controlling element while registration with a data serving node associated with the new network controlling element is carried out via the other communication channel.

Although Applicants believe it clear that their invention is not anticipated by the teaching of Fong, they accept that the present claims may be structured a manner that arguably read on that teaching. Accordingly, Applicants have amended independent claim 1, with conforming amendments to claims depending therefrom, in a manner believed to more clearly reflect the distinctiveness discussed herein.

It is accordingly submitted that claim 1, as amended herein, is patentable over the teaching of Fong. All of the remaining rejected claims depend, either directly or indirectly, from claim 1, and thus also should be patentable. Withdrawal of the rejection under §102 of claims 1-13 is respectfully requested.

II. Conclusion

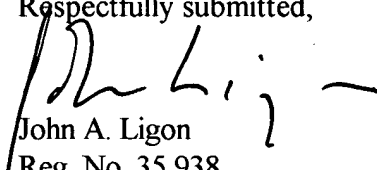
Having fully addressed the Examiner's rejection bases herein, it is believed that, in view of the preceding amendments and remarks, this application now stands in condition for allowance.

Such allowance is respectfully requested.

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Please charge any fees due in respect to this amendment to Deposit Account No. 50-1944.

Respectfully submitted,


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I hereby certify that this Response to Office Action is being deposited with the United States Postal Service as First Class Mail, postage prepaid, in an envelope addressed to the Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313 on November 3, 2003.

By


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